

JAMES

Application No. 09/029,581

August 12, 2003

REMARKS/ARGUMENTS

Reconsideration and allowance of this application are respectfully requested. Currently, claims 1-9 are pending in this application.

Rejections Under 35 U.S.C. §102:

Claims 1-8 were rejected under 35 U.S.C. §102(e) as allegedly being anticipated by Micka et al (U.S. '618, hereinafter "Micka").

Applicant respectfully traverses this rejection.

For a reference to anticipate a claim, each element must be found, either expressly or under principles of inherency, in the reference. Applicant respectfully submits that Micka fails to disclose each element of the claimed invention. For example, Micka fails to disclose the following limitation of independent claim 1:

“...comparing a first key stored in association with the item of data in the cache database with a **second key stored in association with an index entry** for the respective item of data in the master database (emphasis added).”

Similarly, Micka fails to disclose the following limitations of independent claim 2:

“reading a first key stored in association with a cached copy of a required item of data from the cache database;

reading a **second key stored in association with an index entry** for a respective item of master data from the master database;

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comparing the first key with the second key...(emphasis added)."

Claims 1 and 2 each requires comparing a first key stored in associated with an item of data in a cache database with a second key stored in association with an **index entry** for a respective item of data in a master database.

Micka discloses a master journal 800 and state table 700 for enabling secondary host 411 to store data received from primary host 401 in the correct order and to enable secondary host 411 to operate on a stand-alone basis if primary host 401 ceases to exist. (See, e.g., col. 11, lines 1-5). However, Micka fails to disclose comparing a first key stored in association with an item of data in a cache database with a second key stored in association with an **index entry** for a respective item of data in a master database. The Office Action apparently alleges that col. 9, lines 63-67, col. 10, lines 1-25 and/or steps 710 and 712 in Fig. 4 of Micka disclose this claimed feature. (See sections 1 and 2 of the Office Action). Applicant respectfully disagrees. Col. 9, lines 63-67 and col. 10, lines 1-25 of Micka merely describe record set information 600 which, like state table 700 and master journal 800, is transmitted from primary host 401 to secondary host 411 to enable secondary host 411 to know that it has successfully received all of the data transmitted

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to it and how and where to store the received data so that secondary host 411 can successfully and exactly replicate what is stored at primary host 401. Items 710 and 712 of Fig. 1 are simply parts of state table 700. As discussed above, state table 700 is used by Micka to help the secondary host 411 know what data it should have received from primary host 401 and where and how to store it. Items 710 and 712 are never compared with a key stored in association with an index entry for data in a master database.

Claim 2 further requires "retrieving in the event the first and second keys are the same the cached copy of the item of data or in the event the first and second keys are different the respective item of master data." Applicant respectfully submits that Micka fails to disclose this additional feature. The Office Action alleges that col. 13, lines 28-36 of Micka discloses this feature. Applicant respectfully disagrees. Col. 13, lines 28-36 of Micka states the following:

"If a time interval group is incomplete, then step 1110 retries reading the record sets from the primary storage controller 405 until the required data is received. If errors occur, a specific duplex volume pair or pairs may be failed. Having received complete time interval groups, step 1120 determines a first consistency group journal record. The first (or current) consistency group journal record is that record which contains the earliest time of update 610."

This portion of Micka discloses groups of data being transferred from primary host 401 to secondary host 411. If a data group is incomplete, data from primary host 401 is reread so that it may be properly transferred from primary host 401 to secondary host 411. This portion of Micka has nothing to do with retrieving data from a cache database or a master database based on whether the compared first and second keys are the same or different. If anything, this portion of Micka highlights the difference between the present invention which relates to caching and the Micka system which relates to disaster recovery (dr).

Claims 3 and 7 depend from claims 1 and 2, respectively. Claims 3 and 7 require the first and second keys being time-stamps. Accordingly, the invention required by claims 3 and 7 (read in conjunction with base claims 1 and 2, respectively) involve comparing first and second time-stamps. While Micka discloses operational time-stamp 502 (see, e.g., col. 10, lines 27-32), operational time-stamp 502 are not compared with another time-stamp.

Independent claim 5 requires a database file server that includes means for accessing an index of the database and reading an index entry for requested data items, the index entry including a second key

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for the stored item of information. Once again, Applicant submits that Micka fails to disclose a key associated with an index entry. Micka further fails to disclose comparing a first key from a local cache with the second key from the index entry of a master database.

Claim 5 further requires means for returning an indication that the cached data item is consistent with the master database if the two compared keys are the same or returning a copy of the requested item of data from the master database if the two compared keys are different. There is no disclosure of this feature in Micka. The Office Action indicates that col. 10, lines 35-47 of Micka discloses this claimed feature. Applicant respectfully disagrees. Col. 10, lines 35-47 merely discloses determining whether all of the records in a primary host have been properly transferred to the secondary host. This portion of Micka has absolutely nothing to do with returning an indication of data consistency or returning a copy of requested data from a master database depending on whether two compared keys are the same or different.

Claim 6 is directed to a database index having an index entry which includes version information which changes each time respective information in a database changes. The Office Action apparently

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alleges that col. 11, lines 6-11 of Micka discloses this claimed feature.

Applicant respectfully disagrees. Col. 11, lines 6-11 states the following:

“A time stamp control is placed at the front and back of each master journal 800 to ensure that the entire control entry was successfully written. The time stamp control is further written to the secondary DASDs 417. The control elements include dual entries (1) and (2), wherein one entry is always a current entry, for example: (1) Timestamp control /Control Info/ Timestamp Control....”

While this portion of Micka discloses a time stamp being placed on a master journal entry, this portion of Micka fails to disclose changeable version information of a database index which changes each time information in the database itself changes.

Accordingly, Applicant respectfully submits that claims 1-8 are not anticipated by Micka and respectfully requests that the rejection of these claims under 35 U.S.C. §102 be withdrawn.

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New Claim:

New claim 9 has been added to provide additional protection for the invention. New claim 9 requires, inter alia, "comparing a first key stored in association with the item of database in the cache database with a second stored as a component of an index entry for the respective item of data in the master database." Applicant therefore believes that new claim 9 is allowable.

Conclusion:

Applicant believes that this entire application is in condition for allowance and respectfully requests a notice to this effect. If the Examiner has any questions or believes that an interview would further prosecution of this application, the Examiner is invited to telephone the undersigned.

Respectfully submitted,

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